

REMARKS

Applicant requests favorable reconsideration and allowance of the subject application in view of the preceding amendments and the following remarks.

Claims 10-15, 27-32, 41-46, and 54-59 having been withdrawn from consideration pursuant to a restriction requirement, Claims 1-9, 16-26, 33-40, 47-53 and 60-65 are presented for examination. Claims 10 through 65 have been cancelled without prejudice or disclaimer of subject matter. Claims 1 and 5 have been amended to define still more clearly what Applicants regard as their invention, in terms which distinguish over the art of record. Claim 66 has been added to assure Applicants of the full measure of protection to which they deem themselves entitled. Support for the added claim can be found in the original application, as filed. Therefore, no new matter has been added. Claims 1 and 66 are the only independent claims.

The Examiner has required that withdrawn Claims 10-13, 27-30, 41-44 and 54-57 of Group II directed to a process for making semiconductor devices, withdrawn Claims 14, 31, 45 and 58 of Group III directed to a manufacturing factory and withdrawn Claims 15, 32, 46 and 59 directed to a maintenance method be cancelled or another action taken. Accordingly, these claims have been cancelled.

Claims 1-3 and 5-8 have been rejected under 35 U.S.C. § 102(e) as anticipated by U.S. Patent 6,690,450 (Nishi). Claims 4 and 9 have been rejected under 35 U.S.C. 103 as unpatentable over Nishi and further in view of previously cited U.S. Publications 2001/0055117 (Mizutani), 2002/0063856 (Inoue) and U.S. Patent 6,417,914 (Li). With regard to the claims as currently amended, these rejections are respectfully traversed.

Independent Claim 1 as currently amended is directed to substrate processing apparatus in which an alignment system is disposed at a position such that information regarding a pattern arrangement of a substrate is obtained. A processing system is disposed separately from the alignment system and is used to process a substrate. A first substrate stage is able to support a substrate and move in the xy plane. The xy plane is a plane parallel to the direction of an arrangement between the alignment system and the processing system and a z axis is an axis perpendicular to the xy plane. A second substrate stage is able to support a substrate and move in the xy plane. Each of at least three x-position measurement systems measures positions of the first and second substrate stages during movement between the processing system position and alignment system position. Each of at least three y-position measurement systems measures positions and rotations of the first and second substrate stages during movement between the processing system position and the alignment system position. At least one of the y-position measurement systems is disposed at the opposite side of another one of the y-position measurement systems.

In Applicants' view, Nishi et al. discloses in an exposure arrangement, in which a frame mechanism is assembled with a base plate, a column, and a support plate. After that, a sub-chamber provided with an illumination system is installed, and a projection optical system PL is placed on the support plate. Concurrently with this operation, a reticle chamber and a reticle stage system are assembled and adjusted, and a wafer chamber and a wafer stage system are assembled and adjusted. The reticle chamber and the wafer chamber are incorporated into the frame mechanism on which the projection optical system is carried. Piping and other components for

supplying the purge gas for transmitting an exposure light beam therethrough are arranged at the inside of the reticle chamber and the wafer chamber. The space between the projection optical system and the wafer chamber is tightly closed with a film-shaped soft shield member having flexibility.

According to the invention defined in Claim 1, each of at least three x-position measurement systems measures the positions of the first and second substrate stages during movement between the processing system position and the alignment system position; each of at least three y-position measurement systems measures the positions and rotations of the first and second substrate stages during movement between the processing system position and the alignment system position and at least one of the y-position measurement systems is disposed at the opposite side of another one of the y-position measurement systems.

Nishi et al. may disclose exposure apparatus having alignment wafer stages 40A and 40B that hold wafers in the xy plane parallel to alignment sensors 27A and 27B with which pre-alignment is performed at positions B1 and B2 by the alignment sensors 27A and 27B and processing is performed at projection optical system PL. It is a feature of Claim 1 as currently amended that there are at least three position measurement systems in each of the x and y directions of the substrate stages. In contrast to the at least three position measurement systems of Claim 1, Nishi et al. only discloses two position measurement systems 49AX and 49BX that measure position of the wafers in the X direction and three position measurement systems 50AY, 50BY and 50CY that measure the positions of the wafer stages in the y direction. Further, in Nishi et al., position measurement system 50BY is restricted for use only with wafer stage 40A

and position 50CY is restricted for use only with wafer stage 40B and position measurement system 49AX is restricted to wafer stage 40A and position measurement system 49BX is restricted to wafer stage 40B. In contrast, each of the x-position measurement systems of Claim 1 measures the positions of the first and second stages during movement between the one alignment system position and the one processing system position and each of the y-position measurement systems measures the positions and rotations of the first and second substrate stages during movement between the one alignment position and the one processing system position. Accordingly, it is believed that Claim 1 as currently amended is completely distinguished from Nishi et al. and is allowable.

New independent Claim 66 is directed to substrate processing apparatus in which an alignment system is disposed at a position such that information regarding a pattern arrangement of a substrate is obtained. A processing system is disposed separately from the alignment system and is used to process a substrate. Each of first and second stages is able to support a substrate and move in an xy plane. The xy plane is a plane parallel to the direction of an arrangement between the alignment system and the processing system and a z axis is an axis perpendicular to the xy plane. Each of at least three x-position measurement systems measures positions of the first and second stages in the x direction. Each of at least three y-position measurement systems measures position and rotation of the first and second stages in the y direction. At least one of the y-position measurement systems is disposed at the opposite side of another one of the y-position measurement systems.

It is a feature of new Claim 66 that each of at least three x-position measurement

systems measures positions of first and second stages in the x direction and each of at least three y-position measurement systems measures position and rotation in the y direction with at least one of the y-position measurement systems disposed at the opposite side of another one of the at least three y-position measurement systems. As discussed with respect to Claim 1, Nishi et al. only discloses two position measurement systems 49AX and 49BX that measure position of the wafers in the x direction and three position measurement systems 50AY, 50BY and 50CY that measure the positions of the wafer stages in the y direction. Further in Nishi et al., each of position measurement systems 50By and 50CY only measures positions of one of stages 40A and 40B but does not measure position and rotation of both stages 40A and 40B. Similarly, each of position measurement systems 49AX and 49Bx only measures position and rotation of one of stages 40A and 40B but does not measure the positions of both stages 40A and stage 40B as set forth in Claim 66. It is therefore believed that new Claim 66 is completely distinguished from Nishi et al. and is allowable.

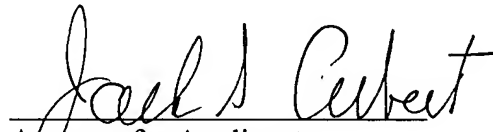
Applicant submits that the cited art, whether taken individually or in combination, does not teach or suggest such features of the present invention as recited in independent Claims 1 and 66. For the foregoing reasons, Applicant submits that the present invention, as recited in independent Claims 1 and 66 are patentably defined over the cited art.

Dependent claims 2 through 9 also should be deemed allowable, in their own right, for defining other patentable features of the present invention in addition to those recited in their respective independent claims. Further individual consideration of these dependent claims is requested.

In view of the foregoing amendments and remarks, Applicants respectfully request favorable consideration and reconsideration and early passage to issue of the present application. The Examiner is respectfully requested to enter this Amendment After Final Action under 37 C.F.R. § 1.116.

Applicants' attorney, Steven E. Warner, may be reached in our Washington, D.C. office by telephone at (202) 530-1010 All correspondence should continue to be directed to our address given below.

Respectfully submitted,



Attorney for Applicants
Jack S. Cubert
Registration No. 24,245

FITZPATRICK, CELLA, HARPER & SCINTO
30 Rockefeller Plaza
New York, New York 10112-3800
Facsimile: (212) 218-2200
SEW/JSC/dc

DC_MAIN 185464v1